Before the
United States Environmental Protection Agency
Office of Air and Radiation

Driving Trucking's Success

Supplemental information for the Clean Diesel Independent Review Panel (ATA Participant) And Comments on The United States Environmental Protection Agency Office of Transportation and Air Quality Assessment and Standards Division Draft Report on: *Highway Diesel Progress Review* (June 2002)

September 24, 2002

To: **Ms. Mary Manners**
Designated Federal Official
U.S. Environmental Protection Agency
Office of Transportation and Air Quality

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Identification

The American Trucking Associations, Inc. ("ATA") submits the following comments in response to the U.S. Environmental Protection Agency's ("EPA" or "Agency") Draft Report entitled *Highway Diesel Progress Review* ("Draft Report").

ATA is the trade association representing the American trucking industry.[1] As the national representative of the trucking industry, ATA is vitally interested in matters affecting the nation's trucking fleets. The membership of ATA strongly supports the achievement of cleaner air and the protection of human health and the environment.

ATA's longstanding role of representing the interests of the trucking industry is all the more significant in this instance because the 2006/2007 Diesel Rule ("Rule") will have a dramatic impact on the trucking industry. In terms of scope, the highway diesel fuel and heavy-duty engines that are the subject of the Rule are used almost exclusively by members of the trucking industry. In terms of impact, the Rule will impose requirements that potentially affect every aspect of the trucking business, including capital costs of acquisition, the availability and cost of fuel for operations, equipment life, maintenance requirements and regulatory compliance.

Overview of the Trucking Industry in the United States

The trucking industry is composed of both large national enterprises as well as a host of small businesses whose livelihood can be dramatically impacted by new regulatory requirements. According to the Department of Transportation, almost 50% of motor carriers have only one truck, and fully 95% of motor carriers (nearly 395,000 in number) have 20 or fewer trucks.[2]

The trucking industry is a major force in the United States economy,[3] employing 9.7 million people in jobs that directly relate to trucking.[4] Trucking accounts for 86 cents of every dollar

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[1] ATA is a united federation of motor carriers, state trucking associations, and national trucking conferences created to promote and protect the interests of the trucking industry. Its membership includes more than 2,000 trucking companies and industry suppliers of equipment and services. Directly and through its affiliated organizations, ATA encompasses over 34,000 companies and every type and class of motor carrier operation.

[2] Federal Motor Carrier Safety Administration, Docket Item FMCSA 1997-2350-954, Preliminary Regulatory Evaluation (Truck Driver Hours of Service), page 60, paragraph 3.

[3] The importance of the trucking industry to the nation's economic well-being has been documented previously in the context of EPA's September 16, 1997 Regulatory Impact Analysis accompanying the final rule establishing emissions standards for Heavy Duty Engines. *See* 62 Fed. Reg. 54694 (October 21, 1997).

collected for freight transportation in the U.S., and trucking hauls practically every type and kind of product and raw material used in the manufacturing and retail sectors of the economy.

Moreover, as the predominant mode by which U.S. consumers receive virtually all of their goods, the trucking industry ensures the availability and cost-effective distribution of finished goods and raw materials throughout all segments of the economy. In this regard, over 70 percent of all communities in the United States rely *exclusively* on trucks to deliver all of their fuel, clothing, medicine, and other consumer goods. In sum, the nation's trucking industry provides the essential transportation resources, infrastructure and services that are necessary to sustain the growing economy that benefits all Americans.

ATA has a direct and substantial stake in the development and implementation of the technology required for the new heavy-duty diesel engines, the necessary emission control systems, and the ultra-low sulfur diesel fuel required under the Rule. We represent the end users that will purchase, maintain, and bear the costs of this equipment and fuel. Our objective, like that of EPA, is quite simply to ensure that this equipment and fuel is available, reliable and cost-effective. ATA appreciates the opportunity to represent the interests of trucking fleets who will be the ultimate consumers of both the new engines and fuels.

Introduction

The focus of the Clean Diesel Independent Review Panel (Panel) is unfortunately limited to the state of technology progress between 2000 and 2002 in three areas: product development and technology of heavy duty diesel engines, product development and technology of specific emissions control systems (namely, particulate matter filters and NOx absorbers) and fuel desulfurization technologies for the petroleum refiners. The Panel report reflects those initial technology stages. However, it is understood by the Panel that the low emission equipment and low sulfur fuel technologies will require timely integration and cooperation by a number of manufacturers and distributors in the supply chain. The principle challenges ahead lie in timely, cost-effective integration of emission control systems, engine development and heavy-duty truck development in sufficient time for the manufacturers to fully validate their performance and life and for the trucking industry to adequately test the equipment for reliability and durability in actual highway and city road conditions at least 15 months before the regulatory compliance date of 2007. Similarly, the challenges that lie ahead for the diesel fuel industry go well beyond the selection and installation of desulfurization equipment at the refineries. They involve the pipeline system distribution of fuels and challenges of avoiding sulfur contamination of transported low sulfur fuel, testing of fuel quality, and minimizing unusable transmix. The distribution and storage capabilities at terminals for this new fuel also is a concern since it affects supply and fuel quality. Finally, tank truck distribution and storage tank capabilities at truck stops and other retail facilities must be monitored.

The ultimate objectives of this EPA rule are to have: (1) ultra low sulfur fuel in adequate supplies available nationwide for the trucking industry and other consumers by June 2006 and

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[4] American Trucking Trends: The Essential Guide to Trucking Facts and Figures (2000).

(2) heavy-duty diesel engine vehicles available and "marketable" by January 2007 – which means tested for not only emissions compliance but reliability, durability and cost-effectiveness so that they will be purchased by industry. EPA must monitor progress based on commercial production needs and timetables. This EPA draft report has a time line for monitoring some, but not all, of these fuel issues, but lacks a similar time-line for tracking critical equipment issues.

For EPA to meaningfully assess progress in the years ahead, it must monitor not only technology development, but also production development, distribution development and the adequacy of the supply and costs of this equipment and fuel to the consumers. Simply put, if these heavy-duty trucks cannot be produced and adequately tested by trucking fleets for at least 24 months in advance of being commercially available, they will not be purchased. Likewise, if the fuel is not adequately available, the equipment will not be purchased. Consequently, the clean air benefits will not be realized unless and until these challenges are met.

The following comments of ATA set forth three procedural recommendations which we believe are essential for EPA to monitor and successfully implement this rule. In addition, these comments identify a series of specific substantive issues that EPA still needs to address.

Substantive Issues EPA Must Address

The assessment of the technical progress made to date on the Rule and the challenges to achieve the standards remain overly optimistic. Specifically, ATA's concerns are as follows:

- The EPA Report discusses the technical progress of PM management and NOx reduction. The former is in the production stage while the latter still remains in the lab testing phase. EPA further needs to mention the currently negative synergistic effects of controlling them simultaneously.

- The impact of ULSD on long-term engine durability, maintenance intervals, and power output need to be more thoroughly addressed in the report.

- The EPA Report should discuss the energy density issue of ULSD as a result of the anticipated refining process compared to 350/500 ppm sulfur and what the potential economic, technical, and productivity effects are with a lower energy density fuel. Preliminary information is that it will reduce fuel economy by 1 to 3 percent. Similarly, the consumption of additional fuel will have an as yet unquantifiable – environmental impact.

- The EPA Report should analyze whether additional routine maintenance or repairs to the after-treatment devices will be necessary to maintain performance and assess its potential costs.

- The EPA Report should discuss any potential failure modes and effects of the after-treatment devices, such as sulfur poisoning.

- EPA should analyze whether there are potential highway safety problems related to the proposed active regeneration technology, which employs injecting fuel into the exhaust system to induce an out-of-engine incineration of accumulated particulate matter.

- EPA should acknowledge that truck stop operators state they need 36 months to make any fuel storage and dispensing changes. Similarly, centrally fueled fleets will also need to make additions and changes to their vehicle fueling systems.

- The EPA Report should take another hard look at fuel costs since pipelines have stated that they may require sulfur content to be as low as 1 ppm to factor in for contamination, and up to 10 percent of transmix may occur compared to EPA's estimate of 4 to 5 percent, and there are additional down stream storage and handling costs for terminals and retailers.

- The EPA Report should address truck equipment life cycle costs, as EPA did for the 2004 rule, and it should be noted that EPA's revised figures for the 2.5 gram engines and heavy duty trucks are ten times higher than originally estimated.

- The EPA Report should address development timing more accurately, especially regarding long-term durability testing and performance validation after application engineering.

- The EPA Report should discuss any technological development required by secondary manufacturers that are "final producers" to truck chassis or vocational units.

- The EPA Report should take a systems approach to other developing technologies that require vehicle integration. Some examples of this are emissions and sulfur measuring technology and a discussion of vehicle networking/data bus capabilities and capacity should be given.

- The EPA Report should address the impact that high sulfur lubricating oils will have upon the aftertreatment devices.

- The EPA Report should discuss the status of the engineering and development tools necessary to design these systems, specifically, the status of the development of measurement technology for emissions level verification.

Procedural Recommendations

ATA wants to avoid a repeat of the situation that is currently confronting trucking fleets as a result of the upcoming October 1, 2002 deadline to reduce nitrogen oxide emissions. By way of background, on October 1, 2002, the EPA will begin enforcing a new nitrogen oxide plus non-methane hydrocarbons emission standard of 2.5 grams per brake horsepower hour against virtually all domestic manufacturers of on-highway, heavy-duty diesel engines, 15 months earlier

than the original federal deadline of January 1, 2004. Under normal circumstances, new engines are extensively field-tested by fleets for at least two complete seasons for thousands of miles far in advance of formal introduction. With less than 10 days remaining before EPA's October 1 deadline, only a few fleet owners have been provided a handful of engines to test.

Our industry only recently became aware that the life-cycle costs for complying with 2002 diesel engine emission requirements will be 12 to 18 times higher than those originally estimated by EPA in 1997. One recent economic report concluded that the increased life cycle costs associated with the purchase and operation of new exhaust gas recirculation heavy duty engines will be $11,057 to $15,892 per vehicle, a figure dramatically higher than the $907 life cycle cost estimate EPA used to support its 2004 Heavy Duty Diesel Rule. This situation is unacceptable and has forced trucking fleets to seek relief from the October 1, 2002 compliance deadline notwithstanding the fact that engine manufacturers had nearly four years of lead time to produce, certify, and test these engines. The hard lesson we have learned, and EPA must learn, is that rosy projections from manufacturers actively marketing their products are a poor substitute for assessing progress. It is a discipline that requires realistic timetables, based on understanding the lead times involved in the commercial production and sales of these integrated systems and periodic fact gathering from manufacturers to objectively measure the progress. The commercial development demands for the 2007 heavy duty diesel engines and low sulfur fuel in 2006 are many times more complicated and costly than the 2002 engines emission standards. Unless a proper evaluation process is implemented now, EPA can expect the same results -- namely, a delay in clean air benefits, as trucking companies avoid the risks involved in purchasing this equipment until it is properly tested for reliability and durability.

ATA recommends a process, including timetables and a reporting mechanism, to annually review the stages of development, production, distribution, and deployment, over the next several years. Our comments were prepared after evaluation by ATA's Technical Advisory Group ("TAG"). TAG is comprised of the trucking industry's leading engineers, fleet managers, and technical experts who are knowledgeable about truck engines and their component systems.

The ATA emphasizes to EPA and this Panel that a successful implementation of these new engine and fuel requirements necessitates close cooperation between various manufacturers and suppliers, including emission control manufacturers, truck manufacturers, and our members who are the truck purchasers. The Engine Manufacturers Association ("EMA") made a presentation to the Panel on June 27 stressing the need to establish milestones and the Rule if the Rule is to be successfully implemented. ATA concurs with EMA's suggested milestones. Under EMA's proposal, emission control manufacturers must have their technology available for engine manufacturers to select and incorporate into their designs within a year according to EMA during its presentation to the Panel on June 27. They in turn must have their engines and emission control prototypes available by mid-2004 for truck manufacturers to incorporate into their production of heavy duty tractors and trucks. At least one year of validation testing by engine manufacturers is critical. The trucking industry, who are the ultimate consumers, validate and provide essential real world experience for feedback to the engine emission control system and vehicle manufacturers.

There is a similar need to recognize the timeframes and interdependence on the diesel fuel side. Progress cannot be measured alone at the refiners' level that is merely the first link in the fuel supply chain. The delivery and distribution companies' capabilities, and the retailer or truck stop operators' capabilities, must also be measured and in place so that there are no fuel shortages or areas where the supply is inadequate to meet the demand of the trucking industry. Since the 2007 engines will malfunction using current diesel formulations, the ramifications of even temporary localized fuel shortages or off specification fuel must be considered. Our nation's commerce, society's well being, and our trucking industry's service depends upon an adequate fuel supply in urban cities and rural towns nationwide

Some Panel members have referred to this regulatory undertaking as a "three-legged" stool with its reliance upon new interactive engines, new emissions control devices, and an ultra low 15 ppm sulfur diesel fuel. Any delay in one will cause a delay in the entire system. All three legs must be firmly in place or the stool will collapse.

We concur with EMA's points made during its presentation to the Panel in that EPA should monitor progress through a systems approach that recognizes the interdependence of engine modifications, after treatment technologies, vehicle integration fuel improvement and lube oil reformulation. While 2006 and 2007 may be the regulatory timeframe for these fuel and equipment changes respectively, the actual commercial development, production, and sale timeframes are far shorter if implementation is to occur without delay and problems in 2006 and 2007. Therefore, the state of progress in 2002 should not be based on a 4 to 5-year lead-time as the Draft Report suggests.

EMA suggests that July 2003 – only 12 months from now – is the critical date for final technology selection. The emissions control manufacturers must have their components available by that time for engine manufacturers to select and integrate them into engine designs. In turn, the manufacturers of the trucks need the engine specifications for their production planning and the trucking industry itself needs 15 months for testing – all of which must occur before 2007.

For these reasons, the Panel should reconvene in July or August 2003. Each of the manufacturers and vendors should be asked by the Panel to provide this information to EPA The Rule contains registration and reporting requirements for the petroleum industry. These requirements are set forth on pages 55 through 57 of the Draft Report. Similar pre-compliance reporting requirements, either mandatory or voluntary, should be established for the emissions control manufacturers, engine manufacturers, and heavy duty truck manufacturers. This is one recommended approach to obtaining more current information and to avoid broad representations by suppliers that progress is being made. ATA recommends that this Panel request EPA to draft such pre-compliance reports and questionnaires.

In addition, ATA recommends that the Panel review process be made on-going by EPA and not lapse at year-end. As discussed at the June and July Panel meetings, the questions and recommendations that will be placed in the "bin" for EPA to evaluate in the future are likely to be more significant than those that will appear in this year's progress report. Next year is the first critical date where statements about progress can be measured with reality.

We thank you for the opportunity to submit our comments and recommendations on behalf of this nation's trucking fleets and welcome a continued dialog with the EPA and the Panel. Please do not hesitate to contact us with questions or comments.

Respectfully submitted,

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